



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/462,415 | 01/20/2000 | GERARD CAILLE | Q057408 | 5068 |

7590 06/21/2002
SUGHRUE MION ZINN MACPEAK & SEAS
2100 PENNSYLVANIA AVENUE NW
SUITE 800
WASHINGTON, DC 20037-3213

EXAMINER

MEHRPOUR, NAGHMEH

ART UNIT PAPER NUMBER

2685

DATE MAILED: 06/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/462,415

Applicant(s)

Caille et al.

Examiner
Naghmeh Mehrpour

Art Unit
2685



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Apr 4, 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-8, 9-14, 17-19**, are rejected under 35 U.S.C. 103(a) as being unpatentable Ishida et al (US Patent Number 5,926,466) in view of Yandrofski et al. (US Patent Number 6,205,340 B1).

Regarding **Claims 1- 3, 7, 10, 17-19**, IShida teaches a circuit for receiving microwaves, the circuit comprising radiating means 1 for receiving microwaves, filter 26 means for eliminating microwaves transmitted at different frequencies by the radiating means, means for amplifying received microwaves, **the filter means and means for amplifying being at least two filters (21, 23, 26, 3, 5, 9) and amplifier (20, 24, 25, 4, 10) stages connected to the radiating means and the first stages comprising a filter whose rejectivity for transmit frequencies is a fraction, of the total rejection needed to eliminate the transmit frequencies and the amplifier stages comprising an amplifier**, the amplifier has as a gain a fraction of the total gain of the circuit, said filter amplifier stages applying progressive filtering and amplification (See figure 1 numerals 20, 21, 23, 24, 25, 26, 3, 5, 9, Page 1 paragraph 57). Ishida fails teach that the filter is planar filter. However Yandrofski teaches Planar filters are commonly used in transceiver devices (Column 5 lines 5-7).

Art Unit:

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the above teaching of Yandrofski to Ishida, in order to provide maximize filter performance.

Regarding **Claim 6**, Ishida teaches a circuit characterized in that the stage farthest from the radiating means is in the form of an integrated circuit (See figure 1).

Regarding **Claim 8**, Ishida teaches a circuit characterized in that the substrate for the planar filter of the first stage has a matrix of a flexible organic material (Page 2 lines 17-18).

Regarding **Claim 12**, Ishida teaches circuit characterized in that the intermediate stage and the first stage are made on the same substrate (See figure 1).

Regarding **Claims 4, 14**, the combination of Ishida and Yandrofski does not specifically teaches a circuit which eliminate the transmit (or receive) frequencies is in the order of 50 dB, 11.7 GHz to 12.55 GHz and the rejectivity of the filter of the first stage is in the order of 14 dB, and transmit frequencies are in the band from 14 GHz to 14.3 GHz. However Examiner takes official notice that a circuit characterized in that the total rejectivity needed to eliminate the transmit (or receive) frequencies is in the order of 50 dB, or 11.7 GHz to 12.55 GHz band and the rejectivity of the filter of the first stage is in the order of 14 dB, or transmitting from 14 GHz to 14.3 GHz are matter of engineer's design choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the above teaching to the combination of Ishida and Yandrofski, in order to provide a system with better quality performance less noise.

Art Unit:

Regarding **Claims 5, 11, 13**, Ishida teaches a circuit that the amplifier of the first stage comprises at least one transistor (Column 4 lines 53-59). The combination of Ishida and Yandrofski does not specifically mention that the stage is of hybrid form and the transistor comprises a semiconductor die with no packaging disposed on the substrate on which the planar filter is implemented.

However, Examiner takes official notice that a stage is of hybrid form and the transistor comprises a semiconductor die with no packaging disposed on the substrate is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the above teaching to the combination of Ishida and Yandrofski, in order to provide a system with less interference.

Regarding **Claim 9**, the combination of Ishida and Yandrofski does not specifically mention that a circuit characterized in that the substrate contains glass fibers for mechanical reinforcement and a dielectric. However, a circuit that the substrate contains glass fiber is conventional and is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the above teaching to the combination of Ishida and Yandrofski, in order to provide a good quality system.

3. **Claims 15-16**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (US Patent Number 5,926,466) and Yandrofski et al. (US Patent Number 6,205,340) in view of Caille et al. (US Patent Number 6,222,493 B1).

Regarding **Claim 15**, the combination of Ishida and Yandrofski fails to teach a circuit characterized in that the microwaves transmitted and received are orthogonally polarized, in

Art Unit:

particular with circular polarizations in opposite directions. However Calli teaches in 6,222,493 a circuit that microwaves transmitted and received are orthogonally polarized, in particular with circular polarizations in opposite directions (Column 2 lines 58-65) Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the above teaching of Calli to the combination of Ishida and Yandrofski, in order to minimize the size and weight of the antenna for providing feasibility.

Regarding **Claim 16**, the combination of Ishida and Yandrofski fails to teach a circuit characterized in that the planar filter is implemented in the microstrip or suspended triplate technology. However Calli in 6,222,493 teaches a circuit characterized in that the planar filter is implemented in the microstrip or suspended triplate technology (Column 6 lines 59-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the above teaching of Calli to the combination of Ishida and Yandrofski, in order to provide a system with nbeter performance.

Response to Arguments

5. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. **Any responses to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Art Unit:

or faxed to:

(703) 872-9314, (for formal communications indented for entry)

Or:

(703) 308-6306, (for informal or draft communications, please label


“PROPOSED” or “DRAFT”)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, Va., sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Melody Mehrpour whose telephone number is (703) 308-7159. The examiner can normally be reached on Monday through Thursday (first week of bi-week) and Monday through Friday (second week of bi-week) from 6:30 a.m. to 5:00 p.m.

NM

June 6, 2002


EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600